

# Notice of Allowability

Application No.

09/607,789

Examiner

Charles Chow

Applicant(s)

KIM ET AL.

Art Unit

2685

## -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 10/27.2005.
2. ☒ The allowed claim(s) is/are 1-10.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

### Attachment(s)

- |   |  |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment                               |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance   |
|   | 9. <input type="checkbox"/> Other _____.   |

**Detailed Action**  
(Response to amendment received 10/27/2005)

***Allowable Subject Matter***

1. The following is an examiner's statement of reasons for allowance:

Claims 1-10 are allowable over the prior art of record, the prior art fails to teach singly, particularly, or in combination, the subject matter, for a portable terminal's overall length is less than  $\frac{1}{2}$  wavelength having a conductor connected to a printed circuit board within terminal body such that an electrical equivalent length of the portable terminal is  $\frac{1}{2}$  wavelength, thereby, providing a function, to shift the peak current distribution point to reduce the peak current radiated from the peak current point **so that the pattern of the emitted electromagnetic waveform adjacent to the terminal is reshaped in such a way so as to reduce the influence of electromagnetic waves upon user's head [claim 1]**; a conductor integrated with the flip so that an equivalent ground length formed by terminal body, the antenna and flip is longer than  $\frac{1}{4}$  wavelength **[claim 6]**; a conductor integrated with the flip so that an equivalent ground length formed by terminal body, the antenna and flip is  $\frac{1}{2}$  wavelength **[claim 10]**, for a small portable terminal to improve antenna signal loss & to reducing the radiation harm to user's head, by simply utilizing a conductor connected to the circuit board.

The dependent claims are also allowable due to their dependency upon the independent claims and having additional claimed features.

The closest patent to **Wong (US 6,615,026 B1)** teaches the portable telephone 10 (Fig. 1) comprising a metallic surface 14, and an antenna 12, for the maxim reflecting the radiated energy away from user's head (abstract); the radiation pattern is reshaped by metallic surface 14 located inside the portable telephone 10 (col. 2, lines 54-57; col. 3, lines

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26-40); so as to reduce radiation upon user's head by directing, reflecting, radiation energy away from user's head (abstract).

**Chatzipetros (US 5,554,996)** teaches a conductor 116 located in flap 104 of handset 100, Fig. 1, is connected to a printed circuit board 206 via direct feed 202 (Fig. 2, col. 2, lines 46-61), the direct feed portion 202 can be in increments of quarter wavelength, col. 3, lines 13-21; Fig. 3, col. 4, lines 29-40; changing the signal level, Fig. 4-5).

Other prior arts in below has been considered, but they fail to teach the above claimed features.

**Phillips et al. (US 5,572,223)** teaches the parasitic radiator 1668 is a thin conductive element on the dielectric 1667 having ground plane 1666 (col. 8, lines 39-54), the patch radiator 1601 is a conductor which is connected to the board 314 through ground pins 1969, at the ground plane 1666 (Fig. 23, col. 8, lines 41-43; col. 8, line 62 to col. 9, line 9), the different shaped parasitic radiators (Fig. 7-12) which couples to the flap antenna (abstract, col. 1, lines 26-31; col. 1, line 65 to col. 2, line 2; col. 7, lines 36-52; col. 3, lines 29-43; and their claim 1).

**Johnson, Jr. (US 4,868,576)** teaches a portable radio terminal apparatus 100 with radiator 102 (col. 2, lines 12-13), the extendable antenna which is shorter in length than a traditional half-wavelength antenna (col. 1, lines 57-63; col. 3, lines 60-63), the minimizing of radiation problem (col. 3, lines 32-46).

**Takei (US 5,585,807)** teaches a small portable mobile terminal (abstract, col. 1, lines 11-20), the portable mobile terminal has overall length under  $\frac{1}{4}$  wavelength in col. 1, lines 6-9). the improving the signal loss using step conductor, strip conductor, finite ground (col. 2, lines 41-45, and his claims 1-5).

**Egashira (US 5,262,792)** teaches the flat conductive board for shortening the antenna for

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providing an ultra short antenna of 37 millimeter for a wireless phone (abstract, figure in cover page; Fig. 8(a); col. 1, lines 8-17; col. 4, lines 43-50), using flat conductive board such as first flat metal member 20 and second metal member 30, the shortening the antenna using the flat metal conductive board member 20, 30 (col. 2, lines 17-60; col. 6, lines 58-63).

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles C. Chow whose telephone number is (571) 272-7889. The examiner can normally be reached on 8:00am-5:30pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on (571) 272-7899. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Charles Chow C.C.

January 10, 2006.

  
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